

REMARKS

Claims 1 and 3-20 are pending in this application. For the reasons set forth below, Applicant respectfully requests reconsideration and immediate allowance of this application.

Claim Rejections Under 35 U.S.C. §103

Claims 1 and 3-20 are rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent Application Publication No. 2003/0226015 to Neufeld et al. (hereinafter "Neufeld") in view of U.S. Patent No. 6,560,641 to Powderly (hereinafter "Powderly") and further in view of U.S. Patent Application Publication No. 2004/0054838 to Hoese et al. (hereinafter "Hoese"). This rejection is respectfully traversed.

Claim 1 recites, *inter alia*, that a method for communicating with a computer management device comprises defining, at a host computer managed by the computer management device, one or more vendor specific commands, the vendor specific commands conforming to a first communication standard, wherein the computer management device is operative to receive video output of the host computer and transmit the video output to a remote computer and further operative to receive user input received at and transmitted from the remote computer and provide the user input to the host computer; transmitting, from the host computer, the one or more vendor specific commands to the emulated device over a communications link between the host computer and the management device, the communications link conforming to the second communication standard; receiving the one or more vendor specific commands at the management device; determining, at the management device, whether the one or more vendor specific commands are intended for the emulated device; in response to determining that the one or more vendor specific commands are not intended for the emulated device, utilizing the received vendor specific commands for communicating with the management device; and in response to determining that the one or more vendor specific commands are intended for the emulated device, accessing content from a mass storage device attached to the remote computer, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device.

Neufeld does not teach, suggest, or describe a method for communicating with a computer management device including the features recited by claim 1. On the contrary,

Neufeld describes a method for accessing, interacting, and monitoring a managed server from a remote console including providing a remote management controller on a PCI bus of the managed server; snooping, at the remote management controller, the PCI bus for configuration transactions between a processor and a video graphics controller of the managed server; and routing keystrokes to a keyboard controller of the managed server from the remote console. Neufeld describes that the PCI bus of the managed system is the main communication interface between the managed server and the remote management controller. Neufeld further describes that the remote management controller includes a USB interface connected to one port of a USB controller typically located in a south bridge portion of the managed server and that the remote management controller may emulate a USB device, such as a USB floppy drive or USB CD drive, that allows the remote management controller to mount additional storage volumes to the managed server residing on an application such as a remote management console.

This is not analogous to the method recited by claim 1 because Neufeld fails to teach, suggest, or describe transmitting, from the host computer, the one or more vendor specific commands to the emulated device over a communications link between the host computer and the management device, the communications link conforming to the second communication standard. Instead, Neufeld describes that the managed server transfers data between a processor of the managed server and a video graphics controller of the managed server over a PCI bus of the managed server and that the remote management controller snoops the data sent by the processor of the managed server to the video graphics controller of the managed server, without teaching, suggesting, or describing that the managed server transmits a vendor specific command to a device emulated by the remote management controller over a communication link between the managed server and the remote management controller. Neufeld describes that the remote management controller may emulate a USB device but fails to teach, suggest, or describe that the managed system transmits any commands to the USB device emulated by the remote management controller.

The Office Action points to paragraph [0017] of Neufeld as allegedly teaching transmitting, from the host computer, the one or more vendor specific commands to the emulated device over a communications link between the host computer and the management device, the communications link conforming to the second communication standard as recited by claim 1.

Applicant respectfully disagrees with this assertion. Paragraph [0017] of Neufeld is reproduced below:

[0017] In a typical remote management system, a user (typically, a member of the network management team) can initiate an out-of-band session with the dedicated server management computer hosted in the managed server via a remote console application program being executed on a client computer. The management computer could be addressed by the user to control various aspects of the operation of the managed server via control circuitry connected to the embedded server management computer hosted by the managed server.

As indicated above, paragraph [0017] of Neufeld describes initiating an out-of-band session with a dedicated server management computer hosted in a managed server via a remote console application program being executed on a client computer. This is not analogous to the method recited by claim 1 because Neufeld fails to teach, suggest, or describe transmitting, *from the host computer*, the one or more vendor specific commands *to the emulated device over a communications link between the host computer and the management device*, the communications link conforming to the second communication standard. Paragraph [0017] describes initiating an out-of-band session between a remote console application program executing on a client computer and a dedicated server management computer hosted in the managed server, without teaching, suggesting, or describing transmitting anything from the managed server to an emulated device over a communications link between the managed server and a management device.

The Office Action appears to rely on the teaching of Powderly to cure, allegedly, the above-identified deficiencies of Neufeld. However, like Neufeld, Powderly does not teach, suggest, or describe a method for communicating with a computer management device including the features recited by claim 1. Instead, Powderly describes a method for providing, via a network, emulation of a console of a host computer system on another, remotely located computer system including providing an adapter card connected to an input/output (I/O) bus of a host computer system where the adapter card comprises a peripheral device interface controller to which peripheral devices can be connected and through which the host computer system can access the peripheral devices. This is not analogous to the method recited by claim 1 because

Powderly fails to teach, suggest, or describe transmitting, *from the host computer*, the one or more vendor specific commands *to the emulated device over a communications link between the host computer and the management device*, the communications link conforming to the second communication standard.

The Office Action points to col. 2, lines 42-52 of Powderly as allegedly teaching transmitting, from the host computer, the one or more vendor specific commands to the emulated device over a communications link between the host computer and the management device, the communications link conforming to the second communication standard as recited by claim 1. Applicant respectfully disagrees with this assertion. Col. 2, lines 42-52 of Powderly is reproduced below:

The adapter card comprises a processor, a network interface controller providing a connection to the network, a peripheral device interface controller to which the peripheral device is connected, a communications client program executing on the processor, and at least one computer-readable medium having stored therein a modified BIOS extension for said peripheral device interface controller. The modified BIOS extension comprises first program code and second program code, the second program code being embedded within the first program code and defining a separate server program. Upon selection by a user at the

Applicant respectfully asserts that nowhere in col. 2, lines 42-52 of Powderly does Powderly teach, suggest, or describe transmitting, *from the host computer*, the one or more vendor specific commands *to the emulated device over a communications link between the host computer and the management device*, the communications link conforming to the second communication standard. In fact, Powderly fails to teach, suggest, or describe an emulated device as recited by claim 1. Therefore, Powderly fails to cure the above-identified deficiencies of Neufeld. Accordingly, claim 1 is allowable over the combined teachings of Neufeld and Powderly.

Further, Neufeld fails to teach, suggest, or describe receiving the one or more vendor specific commands at the management device; determining, at the management device, whether the one or more vendor specific commands are intended for the emulated device; in response to

determining that the one or more vendor specific commands are not intended for the emulated device, utilizing the received vendor specific commands for communicating with the management device; and in response to determining that the one or more vendor specific commands are intended for the emulated device, accessing content from a mass storage device attached to the remote computer, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device as recited by claim 1.

As noted above, Neufeld does not teach, suggest, or describe transmitting, from the host computer, the one or more vendor specific commands to the emulated device over a communications link between the host computer and the management device, the communications link conforming to the second communication standard. It follows, then, that Neufeld also fails to teach, suggest, or describe receiving the one or more vendor specific commands at the management device; determining, at the management device, whether the one or more vendor specific commands are intended for the emulated device; in response to determining that the one or more vendor specific commands are not intended for the emulated device, utilizing the received vendor specific commands for communicating with the management device; and in response to determining that the one or more vendor specific commands are intended for the emulated device, accessing content from a mass storage device attached to the remote computer, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device.

The Office Action points to paragraph [0063] of Neufeld as allegedly teaching determining, at the management device, whether the one or more vendor specific commands are intended for the emulated device as recited by claim 1. Applicant respectfully disagrees with this assertion. Paragraph [0063] of Neufeld is reproduced below:

[0063] The embedded I/O controller **150** may further include a USB interface **184**, which is operatively coupled to the internal local bus **166**. The USB interface **184** is connected to a USB host controller (not shown) via a USB host controller interface **186**. In one exemplary embodiment, the USB interface **184** is connected to one port of a USB host controller (USB bus **24** of FIG. 2), which is typically located

in a south bridge 18 portion of the chipset of the managed server 2. When implemented in this way, the IOP 156 of the remote server management controller 116 may establish “virtual USB peripherals” that will be seen and recognized by any USB-aware OS. These virtual peripherals may be presented to any OS to allow communication with the OS in a common, OS-independent manner.

As indicated above, paragraph [0063] of Neufeld describes that the remote server management controller may establish “virtual USB peripherals” that will be seen and recognized by any USB-aware OS. However, nowhere in paragraph [0063] does Neufeld teach, suggest, or describe determining, at the management device, whether the one or more vendor specific commands are intended for the emulated device.

The Office Action appears to rely on the teaching of Powderly to cure, allegedly, the above-identified deficiencies of Neufeld. However, like Neufeld, Powderly does not teach, suggest, or describe a method for communicating with a computer management device including the features recited by claim 1. Instead, Powderly describes a method for providing, via a network, emulation of a console of a host computer system on another, remotely located computer system including providing an adapter card connected to an input/output (I/O) bus of a host computer system where the adapter card comprises a peripheral device interface controller to which peripheral devices can be connected and through which the host computer system can access the peripheral devices. This is not analogous to the method recited by claim 1 because Powderly fails to teach, suggest, or describe determining, at the management device, whether the one or more vendor specific commands are intended for the emulated device.

The Office Action points to col. 2, lines 64-67 and col. 3, line 1 of Powderly as allegedly teaching determining, at the management device, whether the one or more vendor specific commands are intended for the emulated device as recited by claim 1. Applicant respectfully disagrees with this assertion. Col. 2, lines 64-67 and col. 3, line 1 of Powderly are reproduced below:

of that interrupt. The server program establishes communications with the communications client program on the adapter card, and, thereafter, upon receipt of requests from the communications client program, invokes functions of the host computer system BIOS to control the peripheral device.

As indicated above, col. 2, lines 64-67 and col. 3, line 1 of Powderly describe that a server program establishes communications with a client program on an adapter card, and upon receiving requests from the communications client program, the server program invokes functions of the host computer system BIOS to control the peripheral device. This is not analogous to the method recited by claim 1 because Powderly fails to teach, suggest, or describe determining, at the adapter card or a management device, whether one or more vendor specific commands are intended for an emulated device. The peripheral device described in col. 2, lines 64-67 and col. 3, line 1 and in the remainder of Powderly is not an emulated device as recited by claim 1. Instead, Powderly describes that the peripheral device is connected to a peripheral device interface controller of the adapter card. Therefore, Powderly fails to cure the above-identified deficiencies of Neufeld. Accordingly, claim 1 is allowable over the combined teachings of Neufeld and Powderly.

Moreover, the Office Action points to paragraph [0053] of Neufeld as allegedly teaching in response to determining that the one or more vendor specific commands are not intended for the emulated device, utilizing the received vendor specific commands for communicating with the management device as recited by claim 1. Applicant respectfully disagrees with this assertion. Paragraph [0053] of Neufeld is reproduced below:

[0053] The logic of the remote server management controller 116 is broken down into three main functional blocks. The first of these three functional blocks is an embedded I/O controller 150, which is essentially an independent computer system that is integrated within the managed server 2. The second and third functional blocks of the remote server management controller 116 are a slave instrumentation module 152 and a remote console redirection module 154. As described below, the embedded I/O controller 150 monitors and controls a wide range of conditions in the managed server 20 via the slave instrumentation module 152 and the remote console redirection module 154.

Applicant respectfully asserts that nowhere in paragraph [0053] of Neufeld does Neufeld teach, suggest, or describe in response to determining that the one or more vendor specific commands are not intended for the emulated device, utilizing the received vendor specific commands for communicating with the management device as recited by claim 1. If this rejection is maintained, Applicant respectfully requests that the Examiner provide further explanation regarding how Neufeld allegedly describes this recitation of claim 1.

The Office Action appears to rely on the teaching of Powderly to cure, allegedly, the above-identified deficiencies of Neufeld. However, like Neufeld, Powderly does not teach, suggest, or describe a method for communicating with a computer management device including the features recited by claim 1. Instead, Powderly describes a method for providing, via a network, emulation of a console of a host computer system on another, remotely located computer system including providing an adapter card connected to an input/output (I/O) bus of a host computer system where the adapter card comprises a peripheral device interface controller to which peripheral devices can be connected and through which the host computer system can access the peripheral devices. This is not analogous to the method recited by claim 1 because Powderly fails to teach, suggest, or describe in response to determining that the one or more vendor specific commands are not intended for the emulated device, utilizing the received vendor specific commands for communicating with the management device.

The Office Action points to col. 4, lines 46-54 of Powderly as allegedly teaching in response to determining that the one or more vendor specific commands are not intended for the

emulated device, utilizing the received vendor specific commands for communicating with the management device as recited by claim 1. Applicant respectfully disagrees with this assertion. Col. 4, lines 46-54 of Powderly is reproduced below:

When the host system BIOS executes its power-on self-test (POST), it searches for any BIOS extension code provided on any adapter cards connected to its input/output bus. If a BIOS extension is located, the host loads the BIOS extension code into its host memory for execution (a process sometimes referred to as "shadowing"). After executing the BIOS extension code, the system BIOS completes its normal POST execution, which typically concludes with the booting of the operating system.

Applicant respectfully asserts that nowhere does col. 4, lines 46-54 of Powderly teach, suggest, or describe utilizing the received vendor specific commands for communicating with the management device *in response to determining that the one or more vendor specific commands are not intended for the emulated device*. Therefore, Powderly fails to cure the above-identified deficiencies of Neufeld. Accordingly, claim 1 is allowable over the combined teachings of Neufeld and Powderly.

Additionally, both Neufeld and Powderly fail to teach, suggest, or describe in response to determining that the one or more vendor specific commands are intended for the emulated device, accessing content from a mass storage device attached to the remote computer, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device as recited by claim 1. As discussed above, Neufeld describes that the remote management controller may emulate a USB device but fails to teach, suggest, or describe that in response to determining that one or more vendor specific commands are intended for the emulated device, content from a mass storage device attached to a remote computer is accessed, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device.

The Office Action points to paragraph [0065], lines 1-15 of Neufeld as allegedly teaching in response to determining that the one or more vendor specific commands are intended for the emulated device, accessing content from a mass storage device attached to the remote computer,

the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device as recited by claim 1. Applicant respectfully disagrees with this assertion. Paragraph [0065] of Neufeld is reproduced below:

[0065] USB storage devices (such as floppy drives and CD drives) provide additional capability from a remote management point of view because the USB interface 184 allows the remote server management controller 116 to act as a host for hot-pluggable storage devices. This capability allows remote server management controller 116 to mount additional storage volumes to the managed server 2 in an OS-independent fashion. Ideally, the USB storage volumes would reside on an application such as a remote management console, giving the administrator remote CD drive and/or floppy drive functionality. Other emulated devices, such as a standard Ethernet controller, are interesting because the USB interface gives the remote management controller 116 a well-defined, hot-plug interface for communication which does not require a specific proprietary device driver. Those of skill in the field will appreciate that USB emulated devices are supported by the system BIOS 36 of the managed server 2 prior to when the OS is booted. If the OS of the managed server 2 is USB-aware, then it takes up support of the USB devices after boot.

Applicant respectfully submits that nowhere in paragraph [0065] of Neufeld or any other portion of Neufeld teaches in response to determining that the one or more vendor specific commands are intended for the emulated device, accessing content from a mass storage device attached to the remote computer, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device as recited by claim 1. Instead, paragraph [0065] of Neufeld describes that the USB interface of the remote management controller allows the remote management controller to act as a host for hot-pluggable storage devices, without teaching, suggesting, or describing that *in response to determining that the one or more vendor specific commands are intended for the emulated device, accessing content from a mass storage device attached to the remote computer, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device* as recited by claim 1.

Powderly does not cure these deficiencies of Neufeld. On the contrary, Powderly describes providing a peripheral device interface controller to which peripheral devices can be connected and through which a host computer system can access the peripheral devices. However, as discussed above, the peripheral device described in Powderly is not an emulated device as recited in claim 1. Further, nowhere does Powderly teach, suggest, or describe that in response to determining that one or more vendor specific commands are intended for the emulated device, content from a mass storage device attached to a remote computer is accessed, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device.

The Office Action relies on the teaching of Hoese to cure, allegedly, the above-identified deficiencies of the combined teachings of Neufeld and Powderly. However, like Neufeld and Powderly, Hoese fails to teach, suggest, or describe that in response to determining that one or more vendor specific commands are intended for the emulated device, content from a mass storage device attached to a remote computer is accessed, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device as recited by claim 1. In contrast, Hoese describes a method for providing virtual local storage on remote SCSI storage devices to Fibre Channel devices including providing a storage router which supplies routing such that workstations on Fibre Channel can access storage devices on a SCSI bus such the storage devices appear to the workstations to be local storage. Hoese further describes that the storage router can pass all generic FCP and SCSI commands through to address attached devices while processing management commands intended for the storage router.

This is not analogous to the method recited by claim 1 because Hoese fails to teach, suggest, or describe that in response to determining that one or more vendor specific commands are intended for the emulated device, content from a mass storage device attached to a remote computer is accessed, the content from the mass storage device attached to the remote computer redirected from the remote computer to the computer management device. In particular, the storage router described by Hoese is not a computer management device as recited by claim 1 and does not emulate a device as recited by claim 1. It follows, then, that Hoese fails to teach, suggest, or describe determining whether commands are intended for an emulated device since Hoese completely fails to teach any emulated devices. Finally, Hoese describes that the storage

router passes some commands through to attached devices and processes other commands, without teaching, suggesting, or describing that in response to determining that one or more vendor specific commands are intended for an emulated device, content from a mass storage device attached to a remote computer is accessed, the content from the mass storage device attached to the remote computer redirected from the remote computer to a computer management device.

For at least the above reasons, claim 1 is allowable over the combined teachings of Neufeld, Powderly, and Hoese. Since claims 3-8 depend from claim 1 and recite additional features, Applicant respectfully asserts that claims 3-8 are also allowable over the combined teachings of Neufeld, Powderly, and Hoese.

For reasons similar to those given above with regard to claim 1, Applicant respectfully submits that independent claims 9 and 16 are also allowable over the combined teachings of Neufeld, Powderly, and Hoese. Since claims 10-15 depend from claim 9 and recite further claim features and claims 17-20 depend from claim 16 and recite further claim features, Applicant respectfully submits that the combined teachings of Neufeld, Powderly, and Hoese do not make obvious Applicant's claimed invention as embodied in claims 10-15 and 17-20. Accordingly, withdrawal of these rejections is respectfully requested.

CONCLUSION

In view of the foregoing remarks, Applicant respectfully submits that all of the pending claims in the present application are in condition for allowance. Reconsideration and reexamination of the application and allowance of the claims at an early date is solicited. If the Examiner has any questions or comments concerning this matter, the Examiner is invited to contact Applicant's undersigned attorney at the number below.

Respectfully submitted,

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Date: April 7, 2009

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